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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
BLOCK et al.
 	
Application No.: 09/513,015
 	
Filed: February 25, 2000
 	
For: METHOD AND APPARATUS FOR
      MAKING A COMPUTATIONAL
      SERVICE HIGHLY AVAILABLE
	Group Art Unit: 2142
	
	Examiner: Prieto, Beatriz
	
	Docket No.: SUNMP576
	
	Date: June 23, 2006

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TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION – 37 CFR 41.67)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is in furtherance of the Notice of Panel Decision from Pre-Appeal Brief Review received by the United States Patent and Trademark Office on <u>May 24, 2006</u>.

This application is on behalf of:
      ☐ Small Entity   ☒ Large Entity

Pursuant to 37 CFR 41.20(b)(2), the fee for filing the Appeal Brief is:
      ☐ $250.00 (Small Entity) ☒ $500.00 (Large Entity)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136 apply:

☐ Applicants petition for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

Months	Large Entity	Small Entity
☐ one	$120.00	$60.00
☐ two	$450.00	$225.00
☐ three	$1,020.00	$510.00
☐ four	$1,590.00	$795.00

If an additional extension of time is required, please consider this a petition therefor.

☐ An extension for ( )-months has already been secured and the fee paid therefor of $.00 is deducted from the total fee due for the total months of extension now requested.

☒ Applicants believe that no extension of term is required. However, this conditional petition is being made to provide for the possibility that Applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Total Fees Due:

Appeal Brief Fee	$500.00
Extension Fee (if any)	$.00
Total Fee Due	**$500.00**

☒ Enclosed is Check No. 16597 in the amount of $500.00.

☒ The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-0850 (Order No. SUNMP576). One copy of this transmittal is enclosed.

Respectfully submitted,
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Customer No. 32291

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:	) Examiner: PRIETO, BEATRIZ
	)
BLOCK ET. AL.	) Art Unit: 2142
	)
Application No.: 09/513,015	) Confirmation No.: 7018
	)
Filed: February 25, 2000	) Atty. Docket No.: SUNMP576
	)
For: METHOD AND APPARATUS	) Date: June 23, 2006
FOR MAKING A COMPUTATIONAL	)
SERVICE HIGHLY AVAILABLE	)
	)
	)

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF UNDER 37 C.F.R. § 41.37

Dear Sir:

Applicants in the above-identified patent application, appeal the final rejection of

Claims 1-5, 7-8, and 17-28. The claims on appeal have been finally rejected pursuant to

§ 706.07(a). Accordingly, this appeal is believed to be proper.

I. REAL PARTY IN INTEREST

The real party in interest for the above-identified application is Sun Microsystems, Inc., a California corporation having its principal place of business at 4120 Network Circle, MS SCA12-203 Santa Clara, California 95054. The assignment was recorded in the U.S. Patent and Trademark Office on March 20, 2000 at Reel 010708, Frame 0685.

II. RELATED APPEALS AND INTERFERENCES

A Pre-Appeal Brief Request For Review was filed by Applicants for the above-identified patent application on November 30, 2005. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed to Applicants on May 24, 2006 stating that a Pre-Appeal Brief conference had been held and the panel determined the status of Claims 1-5, 7-8, and 17-28 is rejected.

In accordance with 37 C.F.R. § 41.37(c)(10), a copy of the Notice of Panel Decision from Pre-Appeal Brief Review mailed on March 24, 2006 is provided in the Related Proceedings Appendix attached hereto.

III. STATUS OF CLAIMS

Claims 1-5, 7-8, and 17-28 are pending.

Claims 1-5, 7-8, and 17-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,070,191 to <u>Narendran et al.</u> in view of "SWEB: Towards a Scalable World Wide Web Server on Multicomputers" to <u>Andresen et al.</u> in further view of "High Availability & Scalability with Dominos Clustering and Partitioning on AIX," September 1998 to <u>IBM</u>.

2

Claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over

Narendran-Andresen in view of IBM in further view of U.S. Patent No. 6,023,762 to

Dean et al.

IV. STATUS OF AMENDMENTS

Applicants filed a Response under 37 C.F.R. § 1.116 on October 28, 2005 to the

Final Office Action mailed August 31, 2005. No amendments were made. An Advisory

Action mailed November 8, 2005 indicated that the Response did not place the

application in condition for allowance.

In accordance with 37 C.F.R. § 41.37(c)(8), a copy of the claims involved in the

appeal is provided in the Claims Appendix attached hereto.

V. SUMMARY OF CLAIMED SUBJECT MATTER

This application discloses a method (Claims 1-5, 7-8, 17-27) of making a

computational service available in a multiple server computing environment.

In the embodiment of independent Claim 1, the method comprises exchanging

information between a plurality of servers 100. See Figure 1, page 15:4-6. The method

also comprises initiating a connection between a client unit 102 and a first server of the

plurality of servers 100. See Figure 1, page 15:4-6, page 26:1-12, page 32:1-10; see also

Figure 9a at steps 900-910, Figure 9b at steps 911-916. The method also comprises

determining a most recently accessed session of a plurality of sessions on the plurality of

servers 100. See Figure 9b at step 920; see also Figure 9c at steps 923-928, page 33:20–

35:8. The method also comprises determining, at the first server, a location of the most

3

recently accessed session on one of the plurality of servers 100. See Figure 9b at step 920; see also Figure 9c at steps 923-928, page 33:20–35:8. The method further comprises redirecting the client unit 102 via the first server to a second server of the plurality of servers 100 having the most recently accessed session (see Figure 9b at step 920; see also Figure 9c at steps 923-928, page 33:20–35:8), wherein each of the plurality of sessions comprises a plurality of services requested by the client unit 102 the first and second servers can each provide the plurality of services (see page 22:6-23:19, page 24:9-12; see also Figure 5: client unit 502, session 508, services 530-538), and the plurality of services comprise state maintenances for a user of the client unit 102 (see Figure 1, page 18:16–19:4). And, wherein redirecting is executed when the first server fails to respond to the client unit 102 with a message indicating availability of the first server, and the redirecting of the client unit 102 to the second server maintains access to the accessed session while continuing the plurality of services to the client unit 102 so as to eliminate a single point failure. See page 35:12-18.

This application further discloses a method (Claim 28) of making a computational service available in a multiple server computing environment.

In the embodiment of independent Claim 28, the method comprises exchanging information between a plurality of servers via a self-discovery mechanism. See page 32:1-25. The method also comprises initiating a connection between a client unit and anyone of the plurality of servers that is available to connect with the client unit by inserting a token into the client unit. See Figure 9b at steps 911-920. The method also comprises finding a plurality of sessions associated with the token (see Figure 9b at steps 916-918), determining a most recently accessed session, and directing the client unit to a

4

first server of the plurality of servers having the most recently accessed session (see Figure 9b at steps 920-922). The method further comprises redirecting the client unit via the first server to a second server of the plurality of servers having a next most recently accessed session if the first server fails, wherein redirecting the client unit to the second server maintains access to the accessed session while continuing the computation service to the client unit so as to eliminate a single point failure. See page 35:12-18.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A.   Claims 1-5, 7-8, and 17-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,070,191 to Narendran et al. in view of "SWEB: Towards a Scalable World Wide Web Server on Multicomputers" to Andresen et al. in further view of "High Availability & Scalability with Dominos Clustering and Partitioning on AIX," September 1998 to IBM.

B.   Claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Narendran-Andresen in view of IBM in further view of U.S. Patent No. 6,023,762 to Dean et al.

5

VII. ARGUMENTS

A.   Independent Claim 1 Is Not Properly Rejected Under 35 U.S.C. § 103(a)
Since the Combined Cited References Do Not Teach Or Suggest All Of Its Claimed
Elements and Limitations And Because Of A Failure By The Examiner To Provide Any
Motivation Or Suggestion To Combine The Cited References

Applicants respectfully submit that independent Claim 1 is novel and patentable over Narendran et al., Andresen et al., and IBM because, for instance, none of the references alone or in combination teach or suggest *a most recently accessed session* or *determining a most recently accessed session of a plurality of sessions on a plurality of servers*, as recited in independent Claim 1. Applicants also respectfully submit that there is no motivation to combine the references cited by the Examiner since, at the very least, Narendran et al. explicitly discourage the teachings of Andresen et al., thereby undermining *prima facie* obviousness.

To begin, the primary reference of Narenden et al., as acknowledged by the Examiner, does not teach or suggest a most recently accessed session or determining a most recently accessed session. See Final Office Action, mailed August 31, 2005 at page 4, paragraph 4.

Regarding Andresen et al., the Office cites to page 1, paragraph 3 of section 1 of Andresen et al. to support an assertion that Andresen et al. disclose the approach of the claimed invention wherein making a computational service available in a multi-server environment includes determining *a most recently accessed session* associated with a particular client unit. See Final Office Action, mailed August 31, 2005 at page 4, paragraph 6. However, contrary to the Office's assertion, no where does Andresen et al.

teach or suggest *a most recently accessed session*. Rather, referring to the citation provided by the Office, <u>Andresen et al.</u> teach that "DNS [name] caching enables a local DNS system to cache the name-to-IP address mapping, so that *most recently accessed hosts* can quickly be mapped." <u>See</u> <u>Andresen et al.</u>, page 1, paragraph 3 of section 1 (emphasis added). As recognized by those of ordinary skill in the art, caching is used by Domain Name Service (DNS) name servers to store the results of recent domain name resolution (domain name to IP address mapping) so that if a request associated with a domain name occurs again, the request can be satisfied from the cache without requiring another execution of the name resolution process to determine the IP address of the host computer corresponding to the requested domain name.

In light of the teachings of <u>Andresen et al.</u> discussed above, the Office seems to be arguing that utilizing DNS caching to facilitate the mapping of most recently accessed *host* computers, as taught by <u>Andresen et al.</u>, is equivalent to determining a most recently accessed *session*, as recited in the claimed invention. That which is disclosed in <u>Andresen et al.</u> is simply not the same as that which is disclosed in the claimed invention. A *host*, as recognized by those of ordinary skill in the art, in the context of the teachings of <u>Andresen et al.</u> is a *computer* with a corresponding IP address that hosts information associated with a domain name requested by a user. A *session*, as recited in independent Claim 1, comprises "a plurality of *services* requested by said client unit." <u>See also</u> Present Application at page 22:6-8 (stating "[a] session is a representation of those services which are executing on behalf of a user at any point in time."). The Office is incorrect in asserting that the reference to *a most recently accessed host* disclosed in <u>Andresen et al.</u> in the context of host IP address to domain name mapping is analogous to

the method of the claimed invention which includes determining a location of *a most recently accessed session* that represents services executing on behalf of a user.

Moreover, the teachings of Andresen et al. are explicitly discouraged by Narendran et al. Specifically referring to Andresen et al. by name, Narendran et al. state, "[t]he SWEB approach described in D. Andresen et al., 'SWEB: Towards a Scalable World Wide Web Server on Multicomputers,' ... [a]lthough this system alleviates the problem of DNS name caching through the use of server redirection, the increase in the throughput is still limited by the dynamic redirection and the need to go over the network to fetch documents."). See Narendran et al., column 1:45–2:3. Narenden et al. further discourage the general use of DNS caching. For example, Narenden et al. at column 2, lines 3-4 state that "failures are still a problem due the use of DNS name caching." See also Narenden et al., column 1:26-29 ("... a high degree of load balance may not be achieved due to DNS name caching at different places in the network. This DNS name caching will also prevent the clients from tolerating server failures.").

The Office's rejection does not address this conflict between the teachings of Andresen et al. and the teachings of Narenden et al. A disclosure of the prior art that teaches away from, or discourages, the making of a combination of references cited by the Examiner can undermine *prima facie* obviousness. See MPEP § 2143.01 (stating "[w]here the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art considering the degree to which one reference might accurately discredit another."); see also In re Young, 18 USPQ2d 1089, 1089 (Fed. Cir. 1991) ("[a]pparently conflicting prior art references must, in making obviousness determination, each be weighed for their

power to suggest solutions to artisans of ordinary skill ....”); In re Gurley 31 USPQ2d 1130, 1131 (Fed. Cir. 1994) (“[a] reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference ....”).

Finally, regarding IBM, the Examiner does not argue (see Final Office Action, mailed August 31, 2005 at page 4, paragraph 7) and no where does IBM teach or suggest, determining *a most recently accessed session*. IBM merely teaches providing synchronized redundancy of critical system components by clustering the critical system components. See IBM Abstract. IBM does not, in any context, teach *a most recently accessed session*.

For at least the foregoing reasons, Claim 1, and Claims 2-5, 7-8, and 17-27 which respectively depend therefrom, are patentable.

B.   Independent Claim 28 Is Not Properly Rejected Under 35 U.S.C. § 103(a) For At Least The Same Reasons Stated With Respect To Independent Claim 1

Applicants respectfully submit that independent Claim 28 is novel and patentable over Narendran et al., Andresen et al., IBM, and Dean et al. because, for instance, none of the references alone or in combination teach or suggest *a most recently accessed session* or *determining a most recently accessed session of a plurality of sessions on a plurality of servers*, as recited in independent Claim 28. Moreover, *prima facie* obviousness is undermined regarding independent Claim 28 because, as discussed above, Narendran et al. explicitly “teaches away” from Andresen et al.

9

Specifically, the combined references of <u>Narendran et al.</u>, <u>Andresen et al.</u>, and <u>IBM</u>, as discussed above with respect to independent Claim 1, do not alone or in combination teach or suggest a most recently accessed session or determining a most recently accessed session of a plurality of sessions on a plurality of servers.

Moreover, <u>Dean et al.</u>, as acknowledged by the Examiner, also does not teach or suggest a most recently accessed session or determining a most recently accessed session of a plurality of sessions on a plurality of servers. <u>See</u> Final Office Action, mailed August 31, 2005 at pages 7-8, section 9. Rather, <u>Dean et al.</u> disclose a "data access and retrieval system" which maintains "caller information and security code information for enabling remote access of selection of user data and/or services to be transmitted over a communications network to a caller located at a said service terminal." <u>See</u> <u>Dean et al.</u> Abstract. More particularly, <u>Dean et al.</u> disclose a secured data access and retrieval system in which "user information may have various levels of security, and a user may wish to restrict access to such information depending upon who is requesting that information." See <u>Dean et al.</u>, column 4:33-36. <u>Dean et al.</u> do <u>not</u> disclose, in any context, *a most recently accessed session*.

Therefore, similar remarks as those presented above regarding independent Claim 1 also apply with equal force to independent Claim 28. Accordingly, for at least the reasons stated above regarding Applicants' submission that independent Claim 1 is patentable under 35 U.S.C. § 103(a) over <u>Narendran-Andresen</u> in view of <u>IBM</u>, Claim 28 is likewise patentable under 35 U.S.C. § 103(a) over <u>Narendran-Andresen</u> in view of <u>IBM</u> in further view of <u>Dean et al.</u>

For at least the foregoing reasons, Claim 28 is patentable.

10

CONCLUSION

In view of the foregoing arguments distinguishing Claims 1-5, 7-8, and 17-28

over the art of record, Applicants respectfully submit that the claims are in condition for

allowance, and respectfully request that the rejection of these claims be reversed.

Respectfully submitted,
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Encl.: Appendix of Claims Involved in Appeal
Related Proceedings Appendix
Evidence Appendix (none)

VIII. CLAIMS APPENDIX

LISTING OF CLAIMS:

1.   A method of making a computational service available in a multiple server computing environment comprising:

exchanging information between a plurality of servers;

initiating a connection between a client unit and a first server of said plurality of servers;

determining a most recently accessed session of a plurality of sessions on said plurality of servers;

determining at said first server a location of said most recently accessed session on one of said plurality of servers; and

redirecting said client unit via said first server to a second server of said plurality of servers having said most recently accessed session;

wherein each of said plurality of sessions comprises a plurality of services requested by said client unit;

wherein said first and second servers can each provide said plurality of services;

wherein said plurality of services comprise state maintenances for a user of said client unit;

wherein redirecting is executed when said first server fails to respond to said client unit with a message, the message indicating availability of said first server, and said redirecting of said client unit to said second server maintains access to said accessed session while continuing said plurality of services to said client unit so as to eliminate a

single point failure.

2.   The method of Claim 1, wherein said initiating comprises:

said client unit broadcasting a message to said plurality of servers; and said first server responding to said message.

3.   The method of Claim 1, wherein said initiating is in response to a prior server failing.

4.   The method of Claim 1, wherein said most recently accessed session is associated with a token.

5.   The method of Claim 4, wherein said determining at said first server, the location of said most recently accessed session on one of said plurality of servers, further comprises:

said first server sending a message to said plurality of servers, said message comprising said token; and

said plurality of servers responding to said first server with session information associated with said token.

7.   The method of Claim 1, further comprising securing messages between said client unit and said plurality of servers.

8.   The method of Claim 7, wherein said securing is performed with a keyed hash signature.

17.   The method of Claim 1, wherein said information exchanged between said plurality of servers comprises a description of a network topology of said plurality of servers.

18.   The method of Claim 17, further comprising updating status in said network topology on a relationship between a connectivity of said client unit and said second server.

19.   The method of Claim 1, wherein said second server comprises a server available for having said session.

20.   The method of Claim 1, wherein said client unit comprises a thin client unit.

21.   The method of Claim 1, wherein said session comprises a thin client session.

22.   The method of Claim 1, comprising: maintaining said session persistently by said plurality of servers.

23.   The method of Claim 1, wherein said client unit comprises a stateless device.

24.   The method of Claim 1, wherein said determining said location at said first server of said session on one of said plurality of servers comprises receiving a message from said second server of an availability of said second server for having said session.

25.   The method of Claim 24, wherein said token can identify a plurality of sessions.

26.   The method of Claim 1, wherein said plurality of servers communicate with each other in a self-organizing manner.

27.   The method of Claim 26, wherein said plurality of servers are capable of providing services and sessions so as to provide server redundancy, and so as to eliminate a master component and the single point failure.

28.   A method of making a computational service available in a multiple server computing environment comprising:

exchanging information between a plurality of servers via a self-discovery mechanism;

initiating a connection between a client unit and anyone of said plurality of

servers that is available to connect with said client unit by inserting a token into said

client unit;

finding a plurality of sessions associated with said token;

determining a most recently accessed session;

directing said client unit to a first server of said plurality of servers having said

most recently accessed session; and

redirecting said client unit via said first server to a second server of said plurality

of servers having a next most recently accessed session if said first server fails, wherein

redirecting of said client unit to said second server maintains access to said accessed

session while continuing said computational service to said client unit so as to eliminate a

single point failure.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

Attached hereto is the Notice of Panel Decision from Pre-Appeal Brief Review, mailed

May 24, 2006.
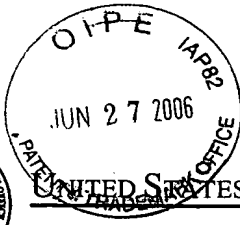
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,015	02/25/2000	Robert J. Block	83000.1135;P4722/ARG	7018

32291	7590	05/24/2006

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EXAMINER
PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Application Number ‖‖‖‖‖‖‖‖‖‖‖	Application/Control No. 09/513,015	Applicant(s)/Patent under Reexamination BLOCK ET AL.	
	Andrew Caldwell	**Art Unit** 2142	

Document Code - AP.PRE.DEC	

Notice of Panel Decision from Pre-Appeal Brief Review

‖‖‖‖‖‖‖‖‖‖‖

This is in response to the Pre-Appeal Brief Request for Review filed <u>December 5, 2005</u>.

1. ☐ **Improper Request** – The Request is improper and a conference will not be held for the following reason(s):

    ☐ The Notice of Appeal has not been filed concurrent with the Pre-Appeal Brief Request.
    ☐ The request does not include reasons why a review is appropriate.
    ☐ A proposed amendment is included with the Pre-Appeal Brief request.
    ☐ Other: .

The time period for filing a response continues to run from the receipt date of the Notice of Appeal or from the mail date of the last Office communication, if no Notice of Appeal has been received.
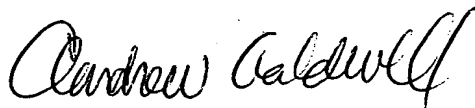
2. ☒ **Proceed to Board of Patent Appeals and Interferences** – A Pre-Appeal Brief conference has been held. The application remains under appeal because there is at least one actual issue for appeal. Applicant is required to submit an appeal brief in accordance with 37 CFR 41.37. The time period for filing an appeal brief will be reset to be one month from mailing this decision, or the balance of the two-month time period running from the receipt of the notice of appeal, whichever is greater. Further, the time period for filing of the appeal brief is extendible under 37 CFR 1.136 based upon the mail date of this decision or the receipt date of the notice of appeal, as applicable.

    ☒ The panel has determined the status of the claim(s) is as follows:
Claim(s) allowed: <u>NONE</u>.
Claim(s) objected to: <u>NONE</u>.
Claim(s) rejected: <u>1-5, 7-8, 17-28</u>.
Claim(s) withdrawn from consideration: <u>NONE</u>.

3. ☐ **Allowable application** – A conference has been held. The rejection is withdrawn and a Notice of Allowance will be mailed. Prosecution on the merits remains closed. No further action is required by applicant at this time.

4. ☐ **Reopen Prosecution** – A conference has been held. The rejection is withdrawn and a new Office action will be mailed. No further action is required by applicant at this time.

All participants:

(1) <u>Andrew Caldwell</u>.

(2) <u>Beatriz Prieto</u>.

ANDREW CALDWELL
PATENT EXAMINER

(3)<u>Lynne Browne</u>.

(4)_____.

U.S. Patent and Trademark Office

Part of Paper No. 05172006